

Appl. No. 10/790,606

Reply to Examiner's Action dated November 28, 2005

**REMARKS/ARGUMENTS**

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully requests reconsideration of this application in view of the foregoing amendment and the following remarks.

The Applicant originally submitted Claims 1-20 in the application. In response to a previous restriction and/or election requirement, the Applicant withdrew Claims 1-9, 17 and 20. Presently, the Applicant has amended Claims 10, 12-14 and 18, canceled Claims 11 and 16 without prejudice or disclaimer, and added new Claims 21 and 22. Accordingly, Claims 10, 12-15, 18-19 and 21-22 are currently pending in the application.

**I. Rejection of Claims 10, 11 and 19 under 35 U.S.C. §102**

The Examiner has rejected Claims 10, 11 and 19 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,846,734 to Amos, *et al.* ("Amos"). Independent Claim 10 currently includes the elements of forming a blanket layer of an alloy comprising a first metal and a second metal over a blanket layer of polysilicon material, and annealing the blanket layer of the alloy to form a blanket layer of silicided gate electrode material including the first metal and the second metal. Amos fails to disclose this element.

Amos is directed to a method and process to make multiple-threshold metal gates CMOS technology. (Title). Amos teaches that a first layer of a first metal 34 and a second layer of a second metal 36 may be formed over a patterned polysilicon gate electrode 20. Amos then discloses that the first and second metals 34, 36 may be subjected to an anneal to cause them to react with the

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patterned polysilicon gate electrode 20 to form a silicided region 38. Amos does not disclose, however, forming a blanket layer of an alloy comprising a first metal and a second metal over a blanket layer of polysilicon material (as opposed to two separate metal layers as taught by Amos), and annealing the blanket layer of the alloy to form a blanket layer of silicided gate electrode material including the first metal and the second metal, as is presently claimed.

Therefore, Amos does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. Because Claim 11 was canceled and Claim 19 is dependent upon Claim 10, Amos also cannot be an anticipating reference for Claims 11 and 19. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102 rejection with respect to these Claims.

## **II. Rejection of Claim 12 under 35 U.S.C. §103**

The Examiner has rejected Claims 12 under 35 U.S.C. §103(a) as being unpatentable over Amos in view of U.S. Patent No. 6,028,002 to Thakur ("Thakur"). As noted above, independent Claim 10 currently includes the elements of forming a blanket layer of an alloy comprising a first metal and a second metal over a blanket layer of polysilicon material, and annealing the blanket layer of the alloy to form a blanket layer of silicided gate electrode material including the first metal and the second metal. As established above, Amos fails to disclose this element. Amos further fails to suggest this element. Amos fails to suggest this element because it takes specific and tailored steps to form both the first and second distinct metal layers, as opposed to the claimed alloy layer. Accordingly, Amos fails to teach or suggest the aforementioned claimed element.

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Thakur fails to correct the deficiencies of Amos. Namely, the Examiner is offering Thakur for the sole proposition that the silicided gate electrode material may be patterned to form a silicided gate electrode. Without even addressing the accuracy of the Examiner's assertion, a teaching or suggestion that the silicided gate electrode material may be patterned to form a silicided gate electrode is very different from forming a blanket layer of an alloy comprising a first metal and a second metal over a blanket layer of polysilicon material, and annealing the blanket layer of the alloy to form a blanket layer of silicided gate electrode material including the first metal and the second metal, as is presently claimed. Accordingly, Thakur also fails to teach or suggest this claimed element.

Thus, Amos, individually or in combination with Thakur, fails to teach or suggest the invention recited in independent Claim 10 and its dependent claims, when considered as a whole. The combination therefore fails to establish a prima facie case of obviousness with respect to these claims. Claim 12 is therefore not obvious in view of Amos and Thakur.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claim 12 under 35 U.S.C. §103(a). The Applicant therefore respectfully requests the Examiner withdraw the rejection.

### **III. Rejection of Claims 15 and 16 under 35 U.S.C. §103**

The Examiner has rejected Claim 16 under 35 U.S.C. §103(a) as being unpatentable over Amos in view of U.S. Pat. No. 6,534,871 to Maa, *et al.* ("Maa"). As noted above, Claim 16 has been

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canceled. Thus, the Examiner's rejection of this Claim over Amos and Maa is moot. The Applicant therefore respectfully requests the Examiner withdraw the rejection.

#### IV. Rejection of Claim 18 under 35 U.S.C. §103

The Examiner has rejected Claim 18 under 35 U.S.C. §103(a) as being unpatentable over Amos in view of U.S. Pat. No. 6,686,274 to Shimazu, *et al.* ("Shimazu"). As noted above, independent Claim 10 currently includes the elements of forming a blanket layer of an alloy comprising a first metal and a second metal over a blanket layer of polysilicon material, and annealing the blanket layer of the alloy to form a blanket layer of silicided gate electrode material including the first metal and the second metal. As established above, Amos fails to teach or suggest this element.

Shimazu fails to correct the deficiencies of Amos. The Examiner is offering Shimazu for the sole proposition that the ratio of the atomic percent of cobalt to that of nickel may range from about 9:1 to about 2:3. Without even addressing the accuracy of the Examiner's assertion, a teaching or suggestion that the ratio of the atomic percent of cobalt to that of nickel may range from about 9:1 to about 2:3 is very different from forming a blanket layer of an alloy comprising a first metal and a second metal over a blanket layer of polysilicon material, and annealing the blanket layer of the alloy to form a blanket layer of silicided gate electrode material including the first metal and the second metal, as is presently claimed. Accordingly, Shimazu also fails to teach or suggest this claimed element.

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Thus, Amos, individually or in combination with Shimazu, fails to teach or suggest the invention recited in independent Claim 10 and its dependent claims, when considered as a whole. The combination therefore fails to establish a *prima facie* case of obviousness with respect to these claims. Claim 18 is therefore not obvious in view of Amos and Shimazu.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claim 18 under 35 U.S.C. §103(a). The Applicant therefore respectfully requests the Examiner withdraw the rejection.

#### V. Allowable Subject Matter

The Examiner has indicated that Claims 13-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant appreciates the Examiner's belief that these claims contain allowable subject matter, however, the Applicant is still of the belief that the independent Claim includes allowable subject matter without amending it to contain the elements of the dependent claims of which the Examiner has indicated contain allowable subject matter. Nevertheless, while the Applicant chooses not to include the allowable subject matter of the dependent Claims into the independent Claim at this time, the Applicant reserves the right to do so in the future if necessary.

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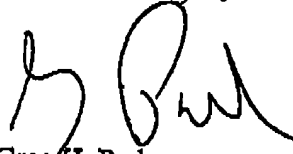
## VI. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 10, 12-15, 18-19 and 21-22.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 20-0668.

Respectfully submitted,

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